



Lean Event Dates: [REDACTED]

Project: State Forest Management Planning

Bureau: Natural Resources

Team: Total number of team members = 11 (4 staff within Division / 7 staff outside Division)

Team Sponsor(s)/Title(s): Susan Frechette, DEP Deputy Commissioner

Team Leader(s)/Title(s): James Parda

Team Members /Titles: Doug Jann, Deatra Slivinsky, Judith Singer, Martha Fraenkel, Roslyn Reeps, Jerry Milne, Will Hochholzer, Peter Picone.

Team Champion(s)/Title(s): Chris Martin, Director Forestry Division/State Forester

Opportunity Statement: Connecticut's State Forests cover 170,000 acres of land. Foresters collect field inventory data every 10 years in managed forests. This is a work intensive process often taking up to 2 years based on forest size. Once the data is analyzed and a management plan drafted, field personnel from other divisions review the plan and offer written comments [usually up to one page]. Occasionally plan writing / review becomes delayed and the process is extended from weeks into several months. Once finalized the plan is then reviewed at the Director level and approved by the BNR Bureau Chief. The DEP manages a connected ecosystem of resources. DEP Divisions have data for watercourses, fisheries, wildlife habitat, T & E species, recreational uses, boundaries and infrastructure in the state forests. However, the data is not centralized within the Division of Forestry or between Bureaus. This data could be in a common database, visually depicted, and used more efficiently for planning purposes.

Objective: The objective of this Kaizen event is to improve the way DEP Forestry and associated Divisions collect, store and transfer data, review and comment on 10 year natural resource management plans, and implement the plans. This can insure that DEP has a leadership role in the management planning process of a significant percentage of the state's forest ecosystem.

Goals/Key Performance Indicators:

Pre-Kaizen Event Goals – Date: 1/29/10	Post-Kaizen Event Results/Key Performance Indicators – Status Date: 6/28/10
Shorten the time for field data collection, plan writing and field level review.	Reduce steps for field data collection and Plan implementation from 31 to 21. Reduce time in plan writing by editing existing plans and using NEDs inserts. Reduce plan review time with GIS maps, electronic transmission to reviewers for comment and eliminate Hartford Director level reviews. 49% time reduction.
Create a database and mapset of the resources in all state forests that is accessible to all DEP staff.	Transport GIS metadata from UConn to DEP enviroviewer, edit and scrub data(OIM/DoF). Create database for data (OIM). Create a standardized way to input collected data which can be exported from field data collectors through the use of NED-lite forestry software (or other more capable programs) currently available to the foresters. The system should also have a process in place to generate reports and accelerate the process of writing a Forestry Management Plan.
	Purchase field data collection units (OIM). Train 6 field foresters to use units (vendor).
Integrate planning between BNR and BOR.	Prioritize State Forest inventory schedule for management planning. Foresters begin using new methods of data collection. (SLM Staff DoF)
Have information online for the public.	Forest Management Plans available on the shared drive in WORD Format, (DoF). Sample management plan on line on DEP Website (DoF).

Type of Process	Reduced Time/ Steps
Office Recon	3 Steps to 2 Steps, days to hours, employ GIS
Field Inventory	5 Steps to 2 Steps, 1000 acres to 2000 acres per year****
Data Process	7 Steps to 4 Steps , months to days, populate database with 12,000 acres per year
Plan Writing	62% less time for review
Mgt. Plan Review	16 Steps to 13 Steps
Implementation	50 % less time for review

Numbers represent the number of 7 hour days needed

	BEFORE	AFTER	Percent Reduction
Office Recon	170	20	88%
Inventory*	1700	1133	33%
Data Entry	121	8	93%
Data Summary	340	85	75%
Data Process	850	170	80%
Plan Writing	540	500	7%
Plan Review	182	70	62%
TOTAL DAYS	3903	1986	49%

Highlights and Implementation of the Project Plan (2, 6 and 12 month deadlines):

Two Month Goals - UConn staff writes metadata for statewide database. DEP Forestry and DEP GIS meet to finalize dataset before launching on servers. Name data steward. Apply to OIM for database creation. Reformat hard copies of existing management plans to WORD. Submit Purchase Request for 6 field data collectors and accessories. Secure GIS training for SLM Forestry field staff. Investigate upgrading field computers to be compatible with GIS requirements.

Six Month Goals - Obtain field data collectors (OIM) and receive training in their use (vendor). All stand maps available to Enviro-data viewer (OIM). SLM Staff meet to learn to scrub data (DoF). SLM Staff meet to prioritize Forest management planning inventory schedule. Forest Management Plans available in WORD on shared drive. Improve connectivity and data transfer to Forestry field offices. OIM insures field computers have sufficient GIS capability. SLM begins using new methods of data collection. Explore options to use existing DEP staff to assist in data collection [Forestry hired 4 trained seasonal resource assistants instead].

Twelve Month Goals - Train Foresters on GIS and begin management plan model test from 3 forest blocks. Create a standardized way to input collected data which can be exported from field data collectors through the use of NED-lite forestry software (or other more capable programs) currently available to the foresters. The system should also have a process in place to generate reports and accelerate the process of writing a Resource Management Plan. Implement full LEAN Team management planning process by forest block and forester (spring 2011). Reassign three to five 4WD vehicles w/in DEP for use by field foresters w/o 4WD for better access to remote/off road areas of State Forest to conduct inventory year round.

Additional Comments/Observations/WOWS/Innovations from the Team: Metadata transport and DEP edit took 2 months longer than expected. Forester data scrub will take additional 2 months. Ordering field data collection unit took 3 months longer than expected. GIS training underway and ahead of schedule. Management Plans reformatted to WORD doc will be completed summer 2010. Sample management plan online delayed for 6 months. Once field data collectors arrive, training received, scrubbed data available, and management plan model for 3 blocks completed, expect to be on track for full implementation of inventory methods spring 2011. INNOVATION: Hired 4 seasonal resource assistants in Forestry who are already GIS trained and capable to tutor field foresters who have no training or experience. DEP GIS has opened "help desk" 5 days in July and August to assist with 'data scrub'.